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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,334	10/09/2003	Gary A. Evans	BPHOTO.012	9844

7590 01/19/2006

Duke W. Yee  
Carstens, Yee & Cahoon, LLP  
P.O. Box 802334  
Dallas, TX 75380

EXAMINER

GOLUB, MARCIA A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/682,334

Applicant(s)

EVANS ET AL. 

Examiner

Marcia A. Golub

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 03 January 2006.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-5,7-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) 10-14 is/are allowed.
- 6)  Claim(s) 1,5,15,18 and 19 is/are rejected.
- 7)  Claim(s) 2-4,7-9 and 17 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

### DETAILED ACTION

Claims 1-5, 7-15, and 17-19 are pending in the application. Claims 10-14 are allowed; claims 6 and 16 are canceled.

#### ***Specification***

The disclosure is objected to because of the following informalities: In paragraph 51 "Fig. 7" should be replaced with "Fig. 8" since figure 7 does not show "more than two lasers" as disclosed in the specification.

Appropriate correction is required.

#### ***Response to Arguments***

Applicant's arguments filed 1/3/2006 have been fully considered but they are not persuasive.

Figure 1a of **Evans (6,775,427)** discloses a laser system consisting of a gain medium, two reflectors and an out-coupling aperture. Evans does not specifically state that the laser system contains "first and second cavities overlapping at an out-coupling aperture". However, Evans discloses that the laser system simultaneously emits *four different light beams* (7/22-25). The Encyclopedia of Laser Physics defines an optical cavity as "an arrangement of optical components, which allows a *beam* of light to circulate". Therefore, since Evans discloses that there is more than one beam of light emitted by the out-coupling aperture, the reference discloses more than one cavity and meets the limitations of the claims.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 5, 15, 18, and 19** are rejected under 35 U.S.C. 102(b) as being anticipated by Evans (U.S. Pub 2002/0126942 now a patent 6,775,427).

Regarding **claim 1**, Fig 1 of Evans discloses “A surface emitting semiconductor laser system, comprising: a first cavity and a second cavity sharing an axis [z axis], the first and second cavities overlapping at an out-coupling aperture [8].” (7/22-25)

Regarding **claim 5**, Fig 2B of Evans discloses “ A surface emitting semiconductor laser system, comprising: four cavities (8/11-13), each of the cavities resonating at a different central wavelength (7/61-63); wherein each of the four cavities overlaps a single out-coupling aperture [8]; wherein first and second cavities of the four cavities share a first axis [z axis], and wherein third and fourth cavities of the four cavities share a second axis [y axis].” (8/45-47)

Regarding **claim 15**, Fig 2B of Evans discloses “A semiconductor laser system, comprising: four cavities, each of the cavities overlapping at a first out-coupling aperture [8]; wherein first and second cavities of the four cavities share a first axis [z axis], and wherein third and fourth cavities share a second axis [y axis]; (8/45-47)

Regarding **claims 18 and 19**, Fig 2B of Evans discloses “A surface emitting semiconductor laser system, comprising: a first cavity and a second cavity sharing a first axis [z axis]; a third cavity and a fourth cavity sharing a second axis [y axis];

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wherein the first, second, third, and fourth cavities intersect at an out-coupling aperture [8]; wherein the first cavity produces light of a first wavelength, the second cavity produces light of a second wavelength, the third cavity produces light of a third wavelength, and the fourth cavity produces light of a fourth wavelength." (7/61-63)

***Allowable Subject Matter***

Claims 2-4, 7-9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 10-14 are allowed. The reasons for indicating allowable subject matter are stated in the previous office action.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fig 1 of **Coleman (6,728,290)** also discloses a semiconductor laser system for simultaneously emitting two laser beams of different wavelength (1/34-60), where two cavities overlap at an out-coupling aperture [11], first cavity defined by the out-coupling aperture [11], gain section [17] and front DBR [14], and second cavity defined by the out-coupling aperture [11], gain section [17] and back DBR [12].

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Contact Info**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcia A. Golub whose telephone number is 571-272-8602. The examiner can normally be reached on M-F 9-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Minsun Harvey  
Supervisor  
Art Unit 2828

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